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(54) RF transponder with resonant crossover antenna coil

(57) An RF transponder couples the outer end (14) of a coiled antenna winding (4) to a transponder circuit (8) located inside the winding (4) by a lead line (16) that crosses over the winding turns and is separated from the winding (4) by a dielectric material. The width of the lead line (16) is substantially greater than the antenna line width, yielding capacitances at the crossover sites that establish a resonant frequency for communicating with the transponder circuit (8) at a predetermined RF frequency. An optional discrete capacitor (20) can also be used to boost the capacitance to a desired level. All of the transponder components are formed on one side of a flexible substrate (2), the opposite side of which is coated with an adhesive that is covered by a peel-off sheet, allowing the transponder to be affixed to packages as a part of a package identification system.

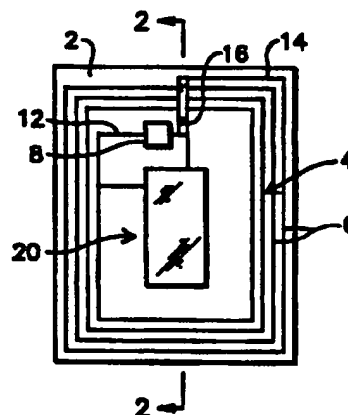


Fig. 1

EUROPEAN SEARCH REPORT

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 95 11 5202

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27-01-2000

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0595549	A	04-05-1994	DE 69313776 D	16-10-1997
			DE 69313776 T	19-02-1998
			JP 6243358 A	02-09-1994

US 5241299	A	31-08-1993	US 5142270 A	25-08-1992
			AU 655645 B	05-01-1995
			AU 2009692 A	30-12-1992
			CA 2103355 A,C	23-11-1992
			EP 0587696 A	23-03-1994
			FI 935118 A	18-11-1993
			JP 7500432 T	12-01-1995
			MX 9202424 A	01-02-1993
			NO 934189 A	19-11-1993
			NZ 242809 A	22-12-1994
			WO 9221113 A	26-11-1992

EP 0380426	A	01-08-1990	JP 2081556 C	23-08-1996
			JP 2195491 A	02-08-1990
			JP 7080386 B	30-08-1995
			AT 126924 T	15-09-1995
			DE 69021743 D	28-09-1995
			DE 69021743 T	07-03-1996
			US 5119070 A	02-06-1992
			US 5201988 A	13-04-1993

WO 9312513	A	24-06-1993	AT 136674 T	15-04-1996
			AU 3086392 A	19-07-1993
			BR 9206945 A	28-11-1995
			DE 69209851 D	15-05-1996
			DE 69209851 T	05-09-1996
			EP 0617826 A	05-10-1994
			ES 2086137 T	16-06-1996
			JP 6511579 T	22-12-1994

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